



Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

21 April 2004
Re:
Application No. 08/579,395
Filing Date: 12/27/1995
Inventor: William H. Swain
Confirmation No: 4200
Examiner: Karlsen, Ernest F.
Art Unit: 2829

RESPONSE TO THE EXAMINER'S ACTION OF 9 APRIL 04.

Greetings,

This response is to the Examiner's Action mailed 9 April 2004.

I thank the Examiner for the opportunity to make a new election. The explanation on page 2 is clear and helpful. However, I still object to the requirement to restrict. My previous arguments are expanded in the "Objection" section. Never the less, I now think it will be enough if a patent soon issues with the six claims 32, 33, 48, 49, 64, and 66.

ELECTION

Under protest, I elect as the Examiner has outlined in his page 3 of 9 April 04:

- a) Invention I as included in claims 32-38, 43, 48-54, 59, 64, and 66.
- b) "Combiner" as included in claims 32-38, 48-54, 64, and 66.
- c) Figure 11 as included in claims 32, 33, 48, 49, 64, and 66.

I am pleased to read that the Examiner intends to examine the six claims: 32, 33, 48, 49, 64, and 66. I protest the withdrawal of 29 claims 34-47, 50-63, and 65.

OBJECTION

In the following I expanded on my traverse of each of the at least four requirements to restrict. These started 7 years ago on 21 February 1997. I also traverse the Examiner's current argument.

The Invention is one.

The first Requirement to Restrict was withdrawn by the Examiner thusly:

Examiner
9-22-98, par.1

"Because Applicant has indicated that no patentably distinct inventions or species are present the restriction requirements of February 21, 1997 and January 6, 1998 are withdrawn..."

I still say that no patentably distinct inventions or species are present. In other words, I say:

THE CLAIMED INVENTIONS (CLAIMS 32-66) ARE OBVIOUS OVER EACH OTHER.

In the "Guidelines" section of MPEP 803 I read:

MPEP 803 If there is an express admission that the claimed
Page 800-4 inventions are obvious over each other within the
 meaning of 35 U.S.C. 103, restriction should not be
 required. *In re Lee*, 199 USPQ 108 (Comm'r Pat.
 1978).

I conclude that the present restriction should not be required.

The Claims to the One Invention differ, but they are not patentably distinct.

This is because they all are derived from the discovery:

Swain **"DISCOVERY"**
1995 The inventor discovered that the output V of many Swain Meter clamps
page 11, par. 3 was a lot less sensitive (1/2 to 1/3 in some sensors) to a change in the
 intensity of a non-uniform magnetic field H_n when the magnitude of an
 operating parameter I_{sm} was doubled or tripled. And the sensitivity (gain)
 to a change in signal input current I stayed constant to within a few percent.

The "Discovery" pointed to the "Essential Characteristic" and means controlling the "Operating Parameter". These comprise the "basic concept". These closely related elements are in all claims in one form or another.

That claims differ should be no surprise. My 1995 application on page 1 referred to the combiner which canceled noise. It also referred to the simpler form, which became the "Better SNR" species.

One Basic Concept for Two Species.

After reading my 1995 Application it should come as no surprise that there are now two species, each of which uses the basic concept.

Page one of my 1995 Application alludes to the Combiner Species:

Swain The method used is usually to find or construct a sensor which has a
1995 signal to noise ratio SNR which changes a lot when its operating
page 1, par. 3 parameter is selectively modulated. The output of the lower noise sensor is
 combined with the output of the higher noise sensor so that, in the ideal
 case, the noise cancels, but a good signal remains. The easier way may be
 to take part of the output of the higher noise sensor and subtract it from
 the output of the lower noise sensor. Two sensors can be used, or the

operating parameter of one sensor can be modulated (driven) from a higher to lower noise state.

The first page of my 1995 Application also alludes to the Better SNR species:

Swain
1995
page 1, par 7 In a simpler form, SNR is substantially improved by operating at a more favorable operating parameter magnitude. Noise is not canceled, but this form can be faster and cost less.

The concept of Better SNR and Combiner species was put forth in my 20 March 1997 response, on:

Page 5, paragraph 4, which discusses the MER Meter wherein signal to noise ratio (SNR) is improved by a factor of 2 or 3, and on

Page 5, paragraph 5 which discusses the MEC meter wherein the error due to a magnet is largely eliminated by subtracting (combining) the outputs of two states.

These two species differ, but they are not patentable over each other because both species include the Basic Concept, i.e., the Discovery - Essential Characteristic and Operating Parameter Control.

The basic concept includes the Discovery - Essential Characteristic plus means to govern the Operating Parameter. The Essential Characteristic is shown in 1995 Figure 5, most recently in "The Invention" section of my response of 28 November 2003, pages 3 - 5. Means to govern the Operating Parameter are shown in 1995 figures 9 and 11, and elsewhere in the Application.

The claims 32-66 differ. Some are broad, some generic, some narrow, some method of construction, and some apparatus. There are no method of use claims. However, the “basic concept” including the “Discovery” - “Essential Characteristic” and means controlling the “Operating Parameter” are in each. The invention is one. Without these there is no invention. No prior art has been shown to include all three of these.

The inclusion of the “Basic Concept” in my claims is shown in the following examples.

Claim 32

Claim 32 includes:

“...find or construct a sensor with an output V which has a signal to noise ratio SNR which changes substantially when the condition of an operating parameter Q is selectively modulated...”

When viewed in the light of the disclosure, this includes the Basic Concept, i.e., Discovery - Essential Characteristic, and Operating Parameter Control.

These are the foundation of the claim of a method for making an implement with improved accuracy.

Definitions

Brief definitions of Discovery, Essential Characteristic, and Operating Parameter Control appear in my response of 28 November 03, pages 3-5, beginning at "The Invention". They also appear with figures 4 and 5 in my petition of 28 November 2003, pages 1-3.

Many detailed definitions and uses of "Discovery", "Essential Characteristic" and "Operating Parameter" control are given in my 1995 application. A few of the more basic are listed here.

Title page 1, paragraph 3, plus Abstract, page 52, paragraph 1 give the broad view of all three.

"Discovery" is solidly defined on page 11, paragraph 3.

"Essential Characteristic" comes from "Discovery". It is solidly defined on page 11, paragraph 4.

An example of "Discovery" is shown in figure 4, page 57. Here Ψ is Noise Sensitivity, and I_{sm} is the Operating Parameter.

An example of "Essential Characteristic" is shown in figure 5. Signal to Noise Ratio (SNR) is plotted against I_{sm} , which is the "Operating Parameter".

The Essential Characteristic in terms of SNR is the reciprocal of the "Discovery" in terms of Ψ . It is shown at the bottom of page 12 that

$$SNR = \frac{1}{\Psi}.$$

A good Essential Characteristic is explained on page 13, paragraph 2. This connects figure 5 with Essential Characteristic and Operating Parameter Control.

The meaning of Operating Parameter Control is illustrated in each of the above.

Claim 45

Claim 45 includes:

"...said Sensor is constructed to have the Essential Characteristic that the said signal to noise ratio SNR is substantially altered by Selective Modulation of an Operating Parameter Q,..."

When viewed in the light of the disclosure, this includes the Basic Concept, i.e., the Discovery-Essential Characteristic and Operating Parameter Control.

These are the foundation of the claim for an improved sensor.

Claim 46

Claim 46 includes:

“...also said sensor is at least one of found or constructed to have the Essential Characteristic that the said signal to noise ratio SNR is substantially altered by Selective Modulation of an Operating Parameter Q; and also

including means enabling the operations of at least one of said sensor and said Operating Parameter Q so that said machine is more useful as judged by substantially increased said SNR...”

When viewed in the light of the disclosure, this includes the Basic Concept, i.e., the Discovery-the Essential Characteristic and Operating Parameter Control.

These are the foundation of the claim for an improved machine... including a sensor.

Claim 66

Claim 66 includes:

“...obtain a said sensor having an output V responsive to a physical quantity input I, the gain g given by

$$g \equiv \frac{\delta V}{\delta I}, \text{ and}$$

said output V is also responsive to an undesired error producing interference N, the sensitivity Ψ being

$$\Psi \equiv \frac{\delta V}{\delta N}, \text{ and}$$

in addition, said sensor has an operating parameter of magnitude Q which modulates said Ψ , and to a lesser extent said gain g;

at least one of calibrate, or make by a proven process, or otherwise assure that said sensor has a strong Essential Characteristic evidenced by observing that said Sensitivity Ψ changes a lot more than said gain g when said magnitude Q is driven over a practical range of values;...”

When viewed in the light of the disclosure, this includes the Basic Concept, i.e., the Discovery-Essential Characteristic and Operating Parameter Control.

These are the foundation of the claim for a method for making a more accurate sensor.

No prior art has been shown to teach how to use all of these to make a more accurate sensor.

Related

The above shows that the inventions as claimed are so closely related by inclusion in each claim in some form or other of the Discovery - Essential Characteristic and the Operating Parameter Control that the claims are not distinct because they are not patentable over each other.

The preceding shows that claims 32-66 are obvious over each other. Therefore they are not patentably distinct. Then they cannot be called "Distinct" in the sense of MPEP 802.

DISTINCT

MPEP 802.01

Page 800-3

The term "distinct" means that two or more subjects as disclosed are related, for example, as combination and part (subcombination) thereof, process and apparatus for its practice, process and product made, etc., but are capable of separate manufacture, use, or sale as claimed, AND ARE PATENTABLE (novel and unobvious) OVER EACH OTHER (though they may each be unpatentable because of the prior art).

Traverse

The Examiner argues (page 4, line 6) for restriction, referencing Ohm's Law. This is not relevant. I did not discover or claim Ohm's Law, or any other law of nature. Instead, I discovered that certain sensors behave differently, i.e., they become more accurate when an Operating Parameter is suitably controlled.

I discovered (Discovery, page 2, this response) that some sensors manufactured by us and others have the property of becoming a lot less sensitive to an interference when an Operating Parameter is suitably changed, yet the sensitivity to a desired input is but little changed.

I discovered a characteristic behavior in some sensors, which when well managed, substantially improved accuracy.

In addition, my 1995 disclosure shows that the Discovery, Essential Characteristic and Operating Parameter Control are closely related. Qualitative and quantitative relationships are shown. Operating embodiments are described.

In contrast, I know of no patentable relationship between a light bulb and a relaxation oscillator in a new and useful device.

Moreover, in the three groups of references cited by the Examiner there is no showing that any prior art taught how to use the Basic Concept, i.e., the Discovery - Essential Characteristic and the Operating Parameter Control to make a more accurate sensor.

Improper Requirement for Restriction

The public interest in avoiding two patents for the same invention is shown in MPEP thusly:

803.01 Review by Examiner with at Least Partial Signatory Authority

MPEP 803.01
Page 800-4

Since requirements for restriction under 35 U.S.C. 121 are discretionary with the Commissioner, it becomes very important that the practice under this section be carefully administered. Notwithstanding the fact that this section of the statute apparently protects the applicant against the dangers that previously might have resulted from compliance with an improper requirement for restriction, IT STILL REMAINS IMPORTANT FROM THE STANDPOINT OF THE PUBLIC INTEREST THAT NO REQUIREMENTS BE MADE WHICH MIGHT RESULT IN THE ISSUANCE OF TWO PATENTS FOR THE SAME INVENTION.

Moreover, it is not in my interest that 29 claims be withdrawn; only to be refiled as supposedly another invention, supposedly patentably distinct from the first. I know that they would be the same basic invention - all from the one "DISCOVERY".

Go with the facts

I thank the Examiner for his suggestions in the last paragraph of page 5 and page 6 that my insistence: "the invention is one" is "...not the way to go...". However, I have to go with the facts:

The Basic Concept, i.e., the Discovery - Essential Characteristic and Operating Parameter Control are, in some form or other, in each and every one of claims 32-66.

So, if a prior art reference is cited which teaches all three of these as a method for making a more accurate sensor, then I suppose lose.

However, if a weakness is found in one claim it may not apply to another, so some claims may fall, but other claims may remain valid.

Thus, the fall of any one claim does not necessarily result in the fall of all claims.

Enough

As things stand now I expect it will be enough for me if a patent soon issues with my six claims 32, 33, 48, 49, 64, and 66.

Respectfully submitted,

William H. Swain

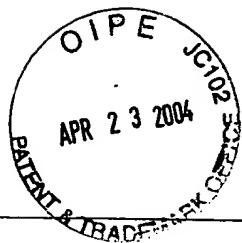
William H. Swain

Inventor

4-19-04

Interview Summary enclosed

4-21-04



Interview Summary	Application No.	Applicant(s)
	08/579,395	SWAIN, WILLIAM H.
Examiner	Art Unit 2829	

All participants (applicant, applicant's representative, PTO personnel):

(1) Mr. Swain (3) SPREE Laballe.
(2) SPE Cuneo. (4) _____.

Date of Interview: 12 February 2004.

Type: a) Telephonic b) Video Conference
c) Personal [copy given to: 1) applicant 2) applicant's representative]

Exhibit shown or demonstration conducted: d) Yes e) No.
If Yes, brief description: _____.

Claim(s) discussed: all in general.

Identification of prior art discussed: None.

Agreement with respect to the claims f) was reached. g) was not reached. h) N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet,

Dated 4/20/04.

*Please also see
My Notes relating to Telephone Conference of 12 Feb. 04--;
Copy enclosed.*

*W. H. Swain
Inventor
4-19-04*

Continuation of substance of interview of 12 Feb 04.

Mrs. Kammie Cuneo spoke of a problem relating to first one invention and then two species. Swain reaffirmed that this is consistent - Swain does not see a problem because both the one invention and the two species include the Basic Concept which comes from the "Discovery" (1995, page 11) which led to the "Essential Characteristic" and the "Operating Parameter Control" (1995, figure 5). These are embodied in generic claims 45 and 63-66. This is explained on page 2, item 2 of my notes of 17 Feb 04, copy enclosed.

Swain asserted that the claims are not patentably distinct, but does not agree that if one claim falls, all fall. This is because the courts have found differently for different types of claims. Moreover, a claim may be flawed in some regard having little to do with the Basic Concept, so its fall does not pull down other claims. At least all 6 of claims 32, 33, 48, 49, 64, and 66 need to be examined on merit. This is explained in page 4, paragraph 4 of 17 Feb 04.

I will be pleased to settle procedural matters so that both my petition and appeal with brief of 22 April 03 can go forward.

Respectfully submitted.



William H. Swain

Inventor





Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

17 February 2004

Re:

Application No. 08/579,395

Filing Date: 12/27/1995

Inventor: William H. Swain

Confirmation No: 4200

Examiner: Karlsen, Ernest F.

Art Unit: 2829

Notes Relating to a Telephone Conference of 12 Feb 04 between Mrs. Kammie Cuneo, and William Swain regarding Application 08-579-395. Mrs. Cuneo asked Mr. Clayton LaBalle to join us.

Greetings,

I hope that these views of mine will clarify some of the issues we discussed.

1. Restriction is not needed. The Invention is one.

There are no patentably distinct inventions or species. The Examiner accepted this when he wrote in his final rejection:

Examiner
29 Jan 03
Page 2, par. 1
and par. 2.

1. *In Paper No. 29 the examiner stated:*
"In response to requirements to elect Applicant has argued that there are no patentably distinct inventions or species. Therefore, the Restriction Requirement of October 31, 2001 is withdrawn.

I said the same with more detail in my latest response. For example:

Swain
Last paragraph
p. 5; 18 Nov 03

Basic Concept and Requirement to Restrict

The basic concept of this invention includes a sensor based on the above primary teaching plus means to properly control the magnitude of the operating parameter. It is included in generic claims 45 plus 63-66. The basic concept is also in one form or another in each one of claims 32-62. So no one claim is patentably distinct from another. Thus the present requirement to restrict is as improper as the three (3) previous requirements¹ which were withdrawn by the Examiner.

¹ *The first three (3) requirements to restrict were in examiner's actions dated 21 February 1997; 28 January 1999, and 31 October 2001.*

Swain
par. 10
p. 7; 18 Nov 03

The basic concept, which includes the primary teaching (the Discovery and the Essential Characteristic) is contained in one form or another in each and every one of claims 32-66. Therefore, no one claim would be patentably distinct from any other claim. This is especially true of generic claims 45 plus 63-66.

2. One Basic Concept for Two Species.

After reading my 1995 Application it should come as no surprise that there are now two species, each of which uses the basic concept. This includes the Discovery which is used in both the Combiner Species and the Better SNR species. The DISCOVERY is:

Swain
1995
page 11, par. 3

DISCOVERY

The inventor discovered that the output V of many Swain Meter clamps was a lot less sensitive (1/2 to 1/3 in some sensors) to a change in the intensity of a non-uniform magnetic field H_n when the magnitude of an operating parameter I_{sm} was doubled or tripled. And the sensitivity (gain) to a change in signal input current I stayed constant to within a few percent.

Page one of my 1995 Application alludes to the Combiner Species:

Swain
1995
page 1, par. 3

The method used is usually to find or construct a sensor which has a signal to noise ratio SNR which changes a lot when its operating parameter is selectively modulated. The output of the lower noise sensor is combined with the output of the higher noise sensor so that, in the ideal case, the noise cancels, but a good signal remains. The easier way may be to take part of the output of the higher noise sensor and subtract it from the output of the lower noise sensor. Two sensors can be used, or the operating parameter of one sensor can be modulated (driven) from a higher to lower noise state.

The first page of my 1995 Application also alludes to the Better SNR species:

Swain
1995
page 1, par 7

In a simpler form, SNR is substantially improved by operating at a more favorable operating parameter magnitude. Noise is not canceled, but this form can be faster and cost less.

The basic concept also includes the Essential Characteristic plus means to govern the Operating Parameter. The Essential Characteristic is shown in 1995 Figure 5, most recently in "The Invention" section of my response of 28 November 2003, pages 3 - 5. Means to govern the Operating Parameter are shown in 1995 figures 9 and 11, and elsewhere in the Application.

2 - 16-04 ✓

As early as 19 March 1997 I put forth the idea of the Combiner species as follows:

Swain
20 March 1997
page 5, par. 5

The MEC Meter shown in exhibit III is still more accurate near a magnet as stated in the boxed sector. The Clip** and Indicator are constructed so that the zero offset error due to a nearby magnet can be largely eliminated (canceled) by subtracting (combining) the result of two states of the Operating Parameter Q, which is now I_{sm} in a MEC meter.*

Exhibit III is a technical data sheet for the MEC meter.

I also put forth the idea of the Better SNR species as follows:

Swain
20 March 1997
page 5, par. 4

A relatively simple implementation (genus) of the basic concept is shown in exhibit II, and described in new claim IIN. We have sold some MER Meters, and they work better than the Standard DC Amp Clip** when it comes to accuracy near a magnet. The MER Clip and Indicator are constructed so that the SNR is improved by a factor of 2 or 3, as stated in the boxed sector in exhibit II.*

Exhibit II is a technical data sheet for the MER Meter.

That the basic concept is in every one of the then claims 1 - 13 plus new claims IN - IVN is made clear on page 1.

Swain
20 March 1997
page 1, par 2

My traverse relies on the fact that the basic concept (Claim IN) is in every claim, so no claim would be patentable over another because it would lack novelty outside of this specification.

Please note that reliance is on the basic concept, not (Claim IN). Here (Claim IN) is an illustration of one form of the basic concept.

The Examiner accepted my Traverse of a restriction requirement:

Examiner
22 Sept. 98
page 2, par. 1

1. Because Applicant has indicated that no patentably distinct inventions or species are present the Restriction Requirements of February 21, 1997 and January 16, 1998 are withdrawn. It is noted that Applicant states on page 1 (actually the second page) of the Amendment of May 29, 1997: "My traverse relies on the fact that the basic concept (claim 14) is in every claim, so no claim would be patentable over another because it would lack novelty outside of this application."

2-17-04 ✓

3. Claim Selection

In the above, reliance is on the Basic Concept. The (Claim 14) is an illustration. I did not select claim 14 as the one claim on which all stand or fall. If this must now be done, I select generic method claim 66.

4. All claims include the Basic Concept, yet all claims are different.

The basic concept² is included in one form or another in all claims, old and new, including present claims 32 - 66. Yet it can be seen that they differ. Some are broad and/or brief, and some are detailed and/or narrow. Some are for apparatus and some are for method. Some are for the combiner species, some are for the Better SNR species. Still others include both species and are called generic. However, the claims are not patentably distinct in any significant way because some form of the Basic Concept appears in each.

Generic method claim 66 is considered stronger than generic apparatus claim 45. It has been requested that claim 66 be examined on merit if all must stand or fall on one claim. I never chose claim 45 for this.

² One form of the Basic Concept is included in claim 14. Claim 14 started out as claim IN in March 1997. It was later renumbered to claim 14. Both are now canceled, but present generic claim 45 is similar. Other forms of the Basic Concept are included in generic claims 63 - 66.

I have never seen an Examiner's review of the merits of 3 year old generic claims 63 - 66. This is requested because method generic claim 66 is now considered stronger.

Respectfully submitted,



William H. Swain
Applicant
17 February 2004